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10/578,073

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Hauke Schramm

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS

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BRIARCLIFF MANOR, NY 10510

EXAMINER

ALBERTALLI, BRIAN LOUIS

ART UNIT

PAPER NUMBER

2626

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/578,073	<b>Applicant(s)</b> SCHRAMM, HAUKE	
	<b>Examiner</b> BRIAN L. ALBERTALLI	<b>Art Unit</b> 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 11, 12, 16 and 17 is/are rejected.
- 7) ☒ Claim(s) 6-10, 13-15 and 18-20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 5, 11, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Bantz et al. (U.S. Patent 5,987,405).

In regard to claim 1, Bantz et al. disclose a method for error detection within text transcribed from a first speech signal by an automatic speech-to-text transcription system (speech input 16 converted to text 12 by a speech recognizer 11, column 3, lines 7-14) comprising synthesizing a second speech signal from the transcribed text (synthesizer 14 accepts the textual representation and synthesizes a speech signal 15, column 3, lines 14-17), providing first and second speech signal outputs for a comparison between first and second speech signals for an identification of potential errors in the text (input speech signal 16 and synthesized speech signal 15 are compared by differencing engine 17 to produce an error term associated with the text, column 3, lines 17-29).

In regard to claim 5, Bantz et al. disclose a comparison signal is generated by subtracting or superimposing first and second speech signals (the comparison signal 18 is a difference between the input speech signal 16 and synthesized speech 15, column 4, line 64 to column 5, line 12).

In regard to claim 11, Bantz et al. disclose an error detection system for a speech-to-text transcription system providing a transcribed text from a first speech signal (speech input 16 converted to text 12 by a speech recognizer 11, column 3, lines 7-14), the error detection system comprising:

means for synthesizing a second speech signal from the transcribed text (synthesizer 14 accepts the textual representation and synthesizes a speech signal 15, column 3, lines 14-17),

means for providing first and second speech signals for comparison between first and second speech signals for an identification of potential errors in the text (input speech signal 16 and synthesized speech signal 15 are compared by differencing engine 17 to produce an error term associated with the text, column 3, lines 17-29).

In regard to claim 12, Bantz et al. disclose a comparison signal is generated by means of subtracting or superimposing first and second speech signals (the comparison signal 18 is a difference between the input speech signal 16 and synthesized speech 15, column 4, line 64 to column 5, line 12).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bantz et al., in view of Yamazaki (U.S. Patent 6,088,674).

In regard to claim 2, while Bantz et al. emphasize the necessity of matching the input speech signal to the synthesized speech signal (column 4, lines 16-63), Bantz et al. do not disclose the speed and/or volume of the second speech signal matches the speed and/or volume of the first speech signal.

Yamazaki et al. disclose a method for comparing a first speech signal to a second speech signal generated from the text transcribed from the first speech signal, wherein:

the speed and/or the volume of the second speech signal matches the speed and/or the volume of the first speech signal (speech is input to a speech recognition section, column 28, lines 6-9; the transcription of which is then used to generate a synthetic speech signal, lines 10-27; the amplitudes of the two waveforms are then matched, lines 54-60).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Bantz et al. to match the speed and/or volume of second speech

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signal to the speed and/or the volume of the first speech signal, because this would reduce the calculations needed for the elastic matching procedure of Bantz et al. (because the signals would be better matched).

In regard to claim 16, Bantz et al. disclose a computer program product for error detection for a speech-to-text transcription system providing a transcribed text from a first speech signal (speech input 16 converted to text 12 by a speech recognizer 11, column 3, lines 7-14), the computer program product comprising program means for:

synthesizing a second speech signal from the transcribed text (synthesizer 14 accepts the textual representation and synthesizes a speech signal 15, column 3, lines 14-17),

providing first and second speech signal outputs for a comparison between first and second speech signals (input speech signal 16 and synthesized speech signal 15 are compared by differencing engine 17 to produce an error term associated with the text, column 3, lines 17-29)

While Bantz et al. emphasize the necessity of matching the input speech signal to the synthesized speech signal (column 4, lines 16-63), Bantz et al. do not disclose the speed and/or volume of the second speech signal matches the speed and/or volume of the first speech signal.

Yamazaki et al. disclose a method for comparing a first speech signal to a second speech signal generated from the text transcribed from the first speech signal, wherein:

matching the speed and/or the volume of the second speech signal to the speed and/or the volume of the first speech signal (speech is input to a speech recognition section, column 28, lines 6-9; the transcription of which is then used to generate a synthetic speech signal, lines 10-27; the amplitudes of the two waveforms are then matched, lines 54-60).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Bantz et al. to match the speed and/or volume of second speech signal to the speed and/or the volume of the first speech signal, because this would reduce the calculations needed for the elastic matching procedure of Bantz et al. (because the signals would be better matched).

In regard to claim 17, Bantz et al. disclose a comparison signal is generated by means of subtracting or superimposing first and second speech signals (the comparison signal 18 is a difference between the input speech signal 16 and synthesized speech 15, column 4, line 64 to column 5, line 12).

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bantz et al., in view of Shimura (U.S. Patent 5,175,799).

In regard to claim 3, while Bantz et al. emphasize the necessity of matching the input speech signal to the synthesized speech signal (column 4, lines 16-63), Bantz et al. do not disclose a set of filter functions is applied to the first speech signal to

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approximate the spectrum of the first speech signal to the spectrum of the second speech signal.

Shimura discloses a method of matching an input speech signal to a synthesized speech signal, wherein a set of filter functions is applied to a first speech signal to approximate the spectrum of the first speech signal to the spectrum of a second speech signal (speech is synthesized using a filter bank derived from an input speech signal, column 4, lines 40-59).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Bantz et al. to apply a set of filter functions to the first speech signal to approximate the spectrum of the first speech signal to the spectrum of the second speech signal, because this would reduce the calculations needed for the elastic matching procedure of Bantz et al. (because the signals would be better matched).

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bantz et al., in view of Hon et al. (U.S. Patent 6,490,563).

In regard to claim 4, Bantz et al. do not disclose the second speech signal is generated by applying an inverse speech transcription process, generating a feature vector sequence from the text, using (a) statistical models of the speech-to-text transcription system and (b) a state sequence obtained in the process of transcription of the text from the first speech signal.

Hon et al. disclose a method for error detection within transcribed text comprising generating a second speech signal by applying an inverse speech transcription process,

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generating a feature vector sequence from the text, using (a) statistical models of the speech-to-text transcription system and (b) a state sequence obtained in the process of transcription of the text from the first speech signal (HMM models are used to both generate the speech, column 6, lines 41-57; as well as recognize the input speech, column 8, lines 43-57).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Bantz et al. to generate a second speech signal by applying an inverse speech transcription process, generating a feature vector sequence from the text, using (a) statistical models of the speech-to-text transcription system and (b) a state sequence obtained in the process of transcription of the text from the first speech signal, because this would reduce the calculations needed for the elastic matching procedure of Bantz et al. (because the signals would be better matched).

### ***Allowable Subject Matter***

8. Claims 6-10, 13-15, and 18-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In regard to claims 6, 13, and 18, Bantz et al., Yamakazi, Shimura, and Hon et al. do not disclose or suggest providing the comparison signal either acoustically or visually.

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In regard to claims 7, 14, and 19, Bantz et al., Yamakazi, Shimura, and Hon et al. do not disclose or suggest that an error signal is output when the comparison signal is beyond a predefined range.

In regard to claims 9, 15, and 20, Bantz et al., Yamakazi, Shimura, and Hon et al. do not disclose or suggest detecting patterns in the comparison signal to detect a certain type of error in the transcribed text.

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN L. ALBERTALLI whose telephone number is (571)272-7616. The examiner can normally be reached on Monday-Thursday, 8 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R Hudspeth/  
Supervisory Patent Examiner, Art Unit 2626

BLA 11/20/08